

ABSTRACT OF THE DISCLOSURE

[1038] An efficient branch prediction structure is described that bifurcates a branch prediction structure into at least two portions where information stored in the second portion is aliased amongst multiple entries of the first portion. In this way, overall storage (and layout area) can be reduced and scaling with a branch prediction structure that includes a $(2N)K \times 1$ branch direction entries and a $(N/2)K \times 1$ branch prediction qualifier entries is less dramatic than conventional techniques. An efficient branch prediction structure includes entries for branch direction indications and entries for branch prediction qualifier indications. The branch direction indication entries are more numerous than the branch prediction qualifier entries. An entry from the branch direction entries is selected based at least in part on a corresponding instruction instance identifier and an entry from the branch prediction qualifier entries is selected based at least in part on least significant bits of the instruction instance identifier.